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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/588,449      | 08/03/2006  | Henrik Lundquist     | 10581.204-US        | 2788             |

25908 7590 02/04/2011  
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| EXAMINER |
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BADR, HAMID R

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

1781

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|-------------------|---------------|
| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

02/04/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents-US-NY@novozymes.com

|                              |                                      |   |  |
|------------------------------|--------------------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/588,449 | <b>Applicant(s)</b><br>LUNDQUIST ET AL. |  |
|                              | <b>Examiner</b><br>HAMID R. BADR     | <b>Art Unit</b><br>1781                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE, 1/18/2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,9 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5,9 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/18/2011 has been entered.

2. Claims 1-5, 9, and 16 are being considered on the merits.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dutron et al. (WO/2004/023879, of record; hereinafter R1) in view of JP 2001-245665 (Polypeptide ID AAM51802; hereinafter R2)

5. R1 discloses the incorporation of xylanases into the dough to improve the baking properties of the baked product (Abstract).

6. R1 discloses that one of the preferred xylanases is the xylanase of *Bacillus halodurans* C-125 or those obtained from the corresponding gene expressed in a suitable host [0024, and Example 2].

Art Unit: 1781

7. R1 discloses that the bread improving composition comprising at least one enzyme of their invention is added during the mixing of the dough. [0025]

8. R1 discloses that other bread improving agents, including enzymes, can be added to the dough [0026]. R1 teaches that among other enzymes, maltogenic amylase can be used with xylanase [0027]. R1 gives the details of cloning the enzyme [0046].

9. R1 discloses that the application of xylanase in baking improves or increases texture, flavor, anti-staling effects, softens crumb, dough machinability and volume of the finished product. [0054].

10. R1 teaches of using the xylanase in the form of dry powder, granulate, liquid etc.

11. While R1 discloses the use of *B. halodurans* C-125 in dough and baking processes, R1 is silent regarding the identity of the *B. halodurans* c-125 xylanase.

12. R2 discloses the results of a comparison of amino acids (1-182) of SEQ. ID NO.2; as presently claimed, with other sources of xylanases. R2 clearly discloses that the claimed SEQ. ID NO.2 matches the *B. halodurans* C-125 at 100%.

13. The inclusion of xylanase, from *B. halodurans*, into dough to improve its properties or the properties of the baked product is disclosed by R1. R1 further teaches of including further enzymes including the maltogenic amylase into the dough formulation. R1 discloses the various forms and compositions containing the xylanase and additive enzymes. R2 discloses that the *B. halodurans* C-125 xylanase is identical to the claimed SEQ. ID. NO. 2. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to add xylanase of *B. halodurans* to dough and bakery products to improve their properties. Absent any evidence to

Art Unit: 1781

contrary and based on the teachings of the reference used, there would be a reasonable expectation of success to make xylanase and use in dough formulations.

### ***Response to Arguments***

Applicants' arguments have been considered. These arguments are not deemed persuasive for the following reasons.

1. Applicants argue that the structures of the claimed xylanase and that of the reference are different and that xylanase of R1 has low sequence identity of only approximately 8% to the xylanase of Applicants' claims.
  - a. Please see the new ground of rejection based on the structure of xylanase of *B. halodurans*.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1781

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R. Badr  
Examiner  
Art Unit 1781

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1781